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Guaranty Trust Company
of New York

Greater France

[New York, etc.]

[c1920]

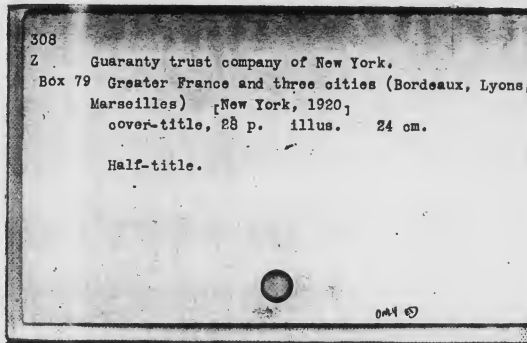
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Greater France
And Three Cities
(Bordeaux - Lyons - Marseilles)

Guaranty Trust Company
of New York

Greater France

Guaranty Trust Company of New York

140 Broadway

FIFTH AVENUE OFFICE
Fifth Avenue and 43rd Street

MADISON AVENUE OFFICE
Madison Avenue and 60th Street

GRAND STREET OFFICE
268 Grand Street

LONDON OFFICES
32 Lombard Street, E. C.
5 Leaden Court, E. C.

LIVERPOOL OFFICE
27 Cotton Exchange Buildings

PARIS OFFICE
1 & 3 Rue des Italiens

HAVRE OFFICE
122 Boulevard Strasbourg

BRUSSELS OFFICE
158 Rue Royale

Gift of the Press

1920

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GUARANTY TRUST COMPANY OF NEW YORK

20 April 1920 News

Greater France

"DURING the most trying days of the struggle you never doubted your soldiers," remarked a noted French financier to a world-famous general of France who was inquiring about the possibility of rapid economic recovery. "The signing of the armistice has not ended the war. It has merely transferred the field of battle. Let us have the same confidence in the Worker of France as we all have had in the Soldier of France. He is one and the same man."

France, instead of idling, as some observers have reported after a cursory survey of the country, has accomplished in the last year so stupendous a task that one marvels how the work has been done.

Seventy-six thousand structures had been erected or repaired by the end of August, 1919, and 60,000 additional buildings were then under construction. About 550,000 buildings were destroyed

or damaged during the war. At the same time, 89 per cent. of the destroyed railroad trackage had been rebuilt, an area of 1,500 square miles of shell-riddled, tillable land cleared up, 80 million cubic yards of trenches filled, 991,000 refugees returned to their homes, 5,000 schools reopened, and 3,872 civic communities reorganized.

The surprise attack of the Germans was aimed at the vital parts of French industrial life. The battle zones and the districts occupied by the enemy represented more than 50 per cent. of the nation's coal production, 92 per cent. of the total iron ore output, 81 per cent. of the blast furnaces and 65 per cent. of the steel works. This same territory produced before the war about three-fifths of the total value of French woolen goods, and three-quarters of the French beet sugar crop.



Copyright by Underwood & Underwood, New York

A street in the rebuilt section of Peronne

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Courtesy French High Commission

A house in the Oise Valley reconstructed by the American Red Cross

The economic problem which faced the French Government in 1914 was, therefore, that of transforming its peace-time industries into a vast, coordinated war machine to supply the material and clothing of the fighters, besides filling the general requirements of the civilian population. And to accomplish this, France could dispose of only 10 per cent. of her iron-ore production, 20 per cent. of her blast furnaces, and 35 per cent. of her steel works. The remarkable effort of France is best told by saying that she not only succeeded in supplying her own needs but also furnished to the Allied Powers and to the American Expeditionary Forces equipment valued at nearly one billion dollars.

The rapid recovery of France from the wars of 1815 and 1870 has always been a subject of favorable comment among economists. Fifteen years after the downfall of Napoleon I, the great war debt which he had heaped upon the nation was

almost extinguished. After 1852, France became the active industrial leader of Continental Europe. Universal exhibitions were inaugurated in Paris and brought there every eleven years crowds from every corner of the globe. In the forty-three years which followed the disaster of 1870, France's recovery was a subject of wonder to the Germans themselves, who publicly regretted the fact that they had not imposed an indemnity of more than 5 billion francs. Hampered in her foreign commerce by the drastic clauses of the Treaty of Frankfurt, France sought a field for her activity in the development of her colonial domain and of its resources. Today, freed from her fetters of 1870, she is feeling her strength, and her ambition will be measured only by her physical possibilities, which present evidences indicate are among the foremost in the world.

The restoration of the rich territory of Alsace-Lorraine should make France a

[4]

leader in the European steel industry. With the addition of these new provinces, the territorial and colonial dominion of the French Republic today is an economic unit of nearly 100 million inhabitants, a rich field for French commercial and industrial endeavor. The natural thrift of the people—the woolen stocking where the French peasant accumulates his savings is a proverbial institution—the splendid energy of the French, and the “Americanism” of the new business generation hold forth the promise that France's remarkable recovery after defeat and territorial mutilation in 1870 will be surpassed by her progress after the victory of 1918.

Population and Territory

France, with a population in 1911 of 39,602,258, is about four times as large in territory as New York State. The colonial empire of France has a population of about 60,000,000 and is one and a quarter times as large as the United States. In addition, the regained provinces of Alsace and Lorraine have a population of nearly 2,000,000. France also controls, by the terms of the Peace Treaty, the rich coal basin of the Saar. Greater France of today is, accord-

ingly, an economic unit with a population of about 100 million and with a volume of basic resources, such as coal and iron, much greater than before the war.

The war losses in men have been very great, but are offset, in part, by the restoration of Alsace-Lorraine, and by the introduction and great development during the war of American labor-saving devices in factories and of American farm implements and tractors in the fields.

The “human wealth” of France was greatly depleted during the war by the mobilization of 8,392,000 out of the 9,366,000 men between the ages of 18 and 50. This represented 89.3 per cent. of France's total male population of military age. In the United States the number of men mobilized for war was only 16.8 per cent. of our total war-power (3,700,000 men were mobilized out of 22,000,000 available).

Agriculture and Foodstuffs

Before the war, France was practically self-sustaining. The great distribution of land ownership among the peasants enabled France to find within her boundaries the greater part of her foodstuffs.



Courtesy French High Commission

A farm in the valley of the Somme. Hundreds of these farm buildings are being reconstructed by the American Red Cross and other relief organizations

[5]



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Courtesy French High Commission

A farm in the valley of the Somme. Hundreds of these farm buildings are being reconstructed by the American Red Cross and other relief organizations



French Pictorial Service, N. Y.

Agricultural machinery ready for shipment to restored farms

Only 6 per cent. of her wheat requirements had to be met by importation; less than 3 per cent. of the oats consumed came from her colonies; very little sugar and only a few specialized meat preparations, mostly table delicacies, came from abroad.

The war, of course, upset the well-ordered life of the nation. Mobilization took workers from the fields; old men, women and children tilled the land and fed the country while their youths fought off the invader.

The result was that the area of cultivated land between 1913 and 1917 fell from about 16 million acres to 10½ million under wheat; from 10 million acres to 7 million under oats, and from 620,000 acres to less than 200,000 under sugar beets.

Of the 206 beet factories in operation before the war all but 64 were in the invaded territory, and these are being rebuilt. The sugar industry was highly developed; one of the factories in the north of France was reputed to be the most modern plant of its kind in the world. German engineers drew up plans

of this factory and it was dismantled and remounted in Germany. This is only one of countless similar occurrences which complicate the problem of reconstruction.

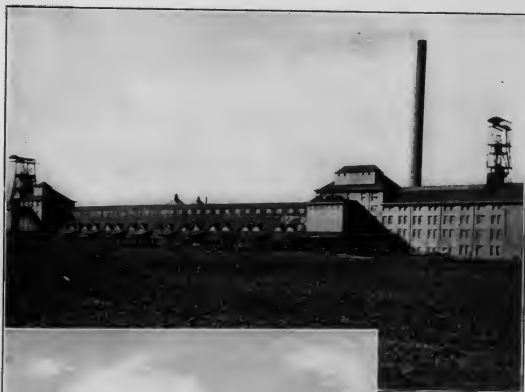
The restoration of farms and the clearing up of the 4,400,000 acres of tillable land in the devastated regions are progressing rapidly. Sixty-five per cent. of the damaged area, in fact, had been restored to cultivation by October, 1919.

The following table shows the great effort made to get back to the prosperous condition of 1913:

	Percentage of devastated area sown as compared with 1913	Percentage of 1913 Production
Rye	42%	34%
Wheat	42%	13%*
Oats	53%	20%

*20% of France's total production in 1913.

Agricultural machinery and fertilizers are being extensively used to replace the loss of farm labor resulting from the war and from the increasing call of the factory. The restoration of Alsace will mean a great deal to French agriculture, as its output of potash in 1913 was 350,000 tons.



Photos "La France"

Potash mines in Alsace. This province produced 350,000 tons of potash in 1913, and its restoration will mean much to French agriculture



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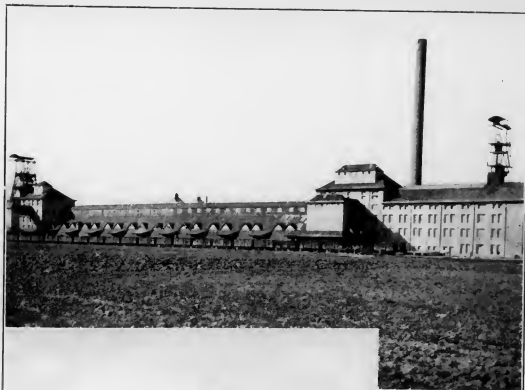


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Potash mines in Alsace. This province produced 350,000 tons of potash in 1913, and its restoration will mean much to French agriculture

The 1919 crop was short, owing to the difficulties described in the foregoing and also to unfavorable weather conditions.

Large purchases of foodstuffs, amounting, it is estimated, to approximately \$150,000,000, must, therefore, be made abroad during 1920.

France abounds in vineyards and has been for centuries the greatest producer of wine. From 1902 to 1913, crops yielded an average of more than 1,400 million gallons a year, constituting one of the great sources of national wealth.

Mining and Steel Industries

The coal production amounted in 1913 to 40 million tons, which, together with imports, made up the yearly requirements of 63 million tons.

At the beginning of the war, the coal output declined more than 50 per cent., owing to the occupation of the northern coal district. But the speeding up of the mines in other regions of France raised the output in 1917 to 28 million tons.

The requirements of France, with the restoration of her lost territories and of the basin of the Saar, are estimated at 88 million tons a year, which will be met as follows:

	Tons
Non-occupied mines	28,000,000
Alsace-Lorraine	3,000,000
Saar Basin (Surplus over local needs)	7,000,000
	38,000,000
German obligation by Peace Treaty to replace production of destroyed mines	20,000,000
German average deliveries before the war, also stipulated by Peace Treaty	7,000,000
	27,000,000
Estimated production of mines of Northern France after being put in order	46,000,000
	111,000,000

German deliveries are inadequate and the mines of Northern France will not be in full operation for some time. An agreement has just been entered into



Courtesy French High Commission

Alsatian refugees returning to their homes in motor trucks from the interior of France

between France and Belgium whereby Belgium will furnish coal in payment for the iron ore which she requires from France.

In the 14 years preceding the war France increased her steel production 150 per cent., being fourth among world powers in this industry, and won second place in point of pig-iron output with an increase of 87 per cent., leaving a good surplus for export.

Extensive development of the iron fields of Normandy during the war give promise of a considerably enlarged iron output within the confines of the pre-war borders of France. With the restoration of Alsace-Lorraine, whose production of iron ore in 1913 was 20,536,000 tons, the French output—according to a statement made by the Chairman of the French Economic Mission at the recent International Trade Conference—will be 45 million tons of iron ore, of which 17 million tons will be free for export; and 9 million tons of pig-iron, of which 1,250,000 tons will be available for foreign trade. More than 8 million tons of steel products will permit the sale abroad of 2 million tons. France will thus rank high on the list of the world's steel producing countries.

Water Power

Every effort is being made to economize coal and develop natural resources. France has harnessed water-power in this struggle. Today the available horse-power is about double that of 1913 and in 1920 it will reach 1,500,000 horse-power. Much was done during the war by the Technical Board of the American Expeditionary Forces to give the French the benefit of American experience in this field, and the present investment in "white fuel" equipment in France represents a value of more than 300 million dollars, of which 120 million were subscribed during the war. A full utilization of the known

resources of the estimated 6,090,000 horse-power would represent a fuel saving of approximately 30,000,000 tons of coal annually.

The use of fuel oil is being greatly extended in France. The shale-beds of Autun; the Peschelbronn district in Alsace-Lorraine, producing 51,193 tons of oil per annum, and where a new gusher of 30 tons daily output has just been discovered; and the oil wells of Algeria are the main home sources of supply. Their development is being actively pushed but recourse to importation which, it is estimated, will amount to 75 million dollars in 1920 must be made to meet the needs of the country. Tanks with a total storage capacity of 609,000 tons have been built at the leading ports, 4,000 railroad tank cars are now available, and the French tariff has been lowered from \$25 to 89 cents per ton.

Textiles

The cotton industry of France requires about 1,100,000 bales of cotton a year, valued at about \$200,000,000. The supply comes mostly from the United States, although Algeria and the French African colonies are beginning to furnish cotton to the home market.

This industry, employing 300,000 operators—1,200,000, if operators in affiliated industries be included—numbered 7,400,000 spindles and 140,000 looms. Fifteen per cent. of the cotton industry was located in the invaded district but the other regions of France increased their production in an effort to make up for this deficiency and to meet the extra demand resulting from war orders. With the addition of Alsace, the total number of spindles in France will be 8,400,000 and that of looms 185,000, while exports of cotton goods will doubtless be more than doubled, constituting a great source of new wealth to France.

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[9]



Courtesy French High Commission

Alsatian refugees returning to their homes in motor trucks from the interior of France

Woolen fabrics exported before the war were in excess of 18,000 tons per annum, the total production occupying 2,600,000 spindles, to which Alsace adds another 500,000 spindles. With Alsace, France will have more than 13 per cent. of the world's total number of looms employed for woolen products.

The yearly exports of linen, hemp and jute amounted to 50 million dollars before the war, while silk exports, for which Lyons is famous, reached 100 million dollars a year.

The excellent quality and artistic design of French textiles are appreciated the world over, and with 5 years' experience of short cuts in production, it is safe to predict that this category of exports will greatly increase.

Transportation

The main arteries of communication in France comprised in 1913 more than 32,000 miles of railroads, 3,000 miles of canals, 4,250 miles of navigable rivers and 375,000 miles of good highways. To these

should be added nearly 4,000,000 gross tons of ocean cargo carriers now under the French flag.

Of 3,500 miles of destroyed railroad trackage, all but 122 miles had been rebuilt by December 1, 1919. Eight-tenths of the damaged waterways also were open to traffic on that date.

Electrification of French Railways

In the general reconstruction program, the building of new lines of railroad and the electrification of lines already existing occupy a prominent place.

At the request of M. Claveille, Minister of Public Works, a recent study has been made to determine whether electricity can be used to economic advantage as motive power for railroads.

The special investigating commission recommended the electrification of 5,220 miles of track as follows:

Paris-Orleans:	1,926 miles out of a total of 4,839 miles
Paris, Lyons & Mediterranean:	1,368 miles out of a total of 6,040 miles
Midi:	1,926 miles out of a total of 2,525 miles



Section Photographique de l'Armée, Paris

Rebuilding a railroad in the devastated region

The upper Dordogne River and its branches are to furnish electric power for the Paris-Orleans road. In 1905-1906 the electrification of the Midi Railway was begun, the water-power of the Pyrenees being used. This plan was first thought out because several of the gradients along this road were almost impossible for steam-propelled locomotives. The necessary power for the electrification of the Paris, Lyons & Mediterranean Railway will be obtained by the construction of a dam near Florac in the Department of the Lozere, closing up a small valley so as to form a fresh-water lake which will contain approximately 158,760,000 cu. ft. of water. The cost of constructing the lake and power station is estimated at about \$40,000,000.

So comprehensive a program as that outlined by M. Claveille will take many years for complete execution. It seems certain, however, that about 500 miles of railroad will be electrified in the near future, and on account of the present high prices and scarcity of coal, a condition which will doubtless continue for some time, it is quite probable that within the next 10 years several thousand miles of railway line will be changed from steam to electrical operation.

The effect of this on the transportation problem of France will be a significant factor in the future commercial and industrial development of France.

Merchant Marine

The merchant fleet is being increased to 6,000,000 gross tons and will enable France to benefit fully from the exceptional advantages of her geographic position as a port of transit for Central and Southern Europe. Vast plans are being carried out to meet these conditions. Enlarged docks, vast piers, and modern electric cranes will reduce terminal costs.

The following table shows the situation of the merchant fleet at present, together with the changes it has undergone since the beginning of the war:

	Tons
August 1, 1914	2,755,775
Loss during the war.	1,128,792
	1,626,983
Additions during the war	418,375
Additions during 1919	1,851,201
Present status	3,896,559

Besides the increase of the merchant marine, three transportation problems of considerable economic importance are at present occupying the French Government: the crossing of the Vosges Mountains by rail, which military reasons prevented earlier; the improvement of the canals leading to the Rhine; and the betterment of the port of Strasbourg.

The use of the Rhine, insured to France by the Treaty of Peace, which has opened the river to international navigation, will mean a new source of wealth.

France alone may draw from the Rhine, between the extreme eastern points of the French frontiers, the water necessary to the functioning of her lateral canals; she will also have exclusive right to the hydraulic power generated by this portion of the river. Measures have already been taken to use the Rhine for export and import trade all the way from Basle to Rotterdam; as well as to construct central hydraulic power stations along that part of the river mentioned above, for the utilization of the great power supply made available by it. This power will be made use of mostly by the City of Paris and the surrounding districts, which will then, at a low cost, greatly increase their present industrial capacity.

Commerce

Confronting the menace of the surprise attack of 1914 and the continued pressure and assaults of the ensuing years, France

Woolen fabrics exported before the war were in excess of 18,000 tons per annum, the total production occupying 2,600,000 spindles, to which Alsace adds another 500,000 spindles. With Alsace, France will have more than 13 per cent. of the world's total number of looms employed for woolen products.

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The excellent quality and artistic design of French textiles are appreciated the world over, and with 5 years' experience of short cuts in production, it is safe to predict that this category of exports will greatly increase.

Transportation

The main arteries of communication in France comprised in 1913 more than 32,000 miles of railroads, 3,000 miles of canals, 4,250 miles of navigable rivers and 373,000 miles of good highways. To these

should be added nearly 4,000,000 gross tons of ocean cargo carriers now under the French flag.

Of 3,500 miles of destroyed railroad trackage, all but 122 miles had been rebuilt by December 1, 1919. Eight-tenths of the damaged waterways also were open to traffic on that date.

Electrification of French Railways

In the general reconstruction program, the building of new lines of railroad and the electrification of lines already existing occupy a prominent place.

At the request of M. Claveille, Minister of Public Works, a recent study has been made to determine whether electricity can be used to economic advantage as motive power for railroads.

The special investigating commission recommended the electrification of 5,220 miles of track as follows:

Paris-Orleans:	1,920 miles out of a total of 4,839 miles
Paris, Lyons & Mediterranean:	1,268 miles out of a total of 6,040 miles
Midi:	1,920 miles out of a total of 2,525 miles



Section Photographique de l'Armée, Paris

Rebuilding a railroad in the devastated region

The upper Dordogne River and its branches are to furnish electric power for the Paris Orleans road. In 1905-1906 the electrification of the Midi Railway was begun, the water-power of the Pyrenees being used. This plan was first thought out because several of the gradients along this road were almost impossible for steam-propelled locomotives. The necessary power for the electrification of the Paris, Lyons & Mediterranean Railway will be obtained by the construction of a dam near Florac in the Department of the Lozere, closing up a small valley so as to form a fresh-water lake which will contain approximately 158,760,000 cu. ft. of water. The cost of constructing the lake and power station is estimated at about \$40,000,000.

So comprehensive a program as that outlined by M. Claveille will take many years for complete execution. It seems certain, however, that about 500 miles of railroad will be electrified in the near future, and on account of the present high prices and scarcity of coal, a condition which will doubtless continue for some time, it is quite probable that within the next 10 years several thousand miles of railway line will be changed from steam to electrical operation.

The effect of this on the transportation problem of France will be a significant factor in the future commercial and industrial development of France.

Merchant Marine

The merchant fleet is being increased to 6,000,000 gross tons and will enable France to benefit fully from the exceptional advantages of her geographic position as a port of transit for Central and Southern Europe. Vast plans are being carried out to meet these conditions. Enlarged docks, vast piers, and modern electric cranes will reduce terminal costs.

The following table shows the situation of the merchant fleet at present, together with the changes it has undergone since the beginning of the war:

	Tons
August 1, 1914	2,755,775
Loss during the war	1,128,792
	<hr/>
Additions during the war	1,626,983
Additions during 1919	1,851,201
	<hr/>
Present status	3,896,559

Besides the increase of the merchant marine, three transportation problems of considerable economic importance are at present occupying the French Government: the crossing of the Vosges Mountains by rail, which military reasons prevented earlier; the improvement of the canals leading to the Rhine; and the betterment of the port of Strasbourg.

The use of the Rhine, insured to France by the Treaty of Peace, which has opened the river to international navigation, will mean a new source of wealth.

France alone may draw from the Rhine, between the extreme eastern points of the French frontiers, the water necessary to the functioning of her lateral canals; she will also have exclusive right to the hydraulic power generated by this portion of the river. Measures have already been taken to use the Rhine for export and import trade all the way from Basle to Rotterdam; as well as to construct central hydraulic power stations along that part of the river mentioned above, for the utilization of the great power supply made available by it. This power will be made use of mostly by the City of Paris and the surrounding districts, which will then, at a low cost, greatly increase their present industrial capacity.

Commerce

Confronting the menace of the surprise attack of 1914 and the continued pressure and assaults of the ensuing years, France



French Pictorial Service, N. Y.

Distilling room in a large perfumery

threw practically all of her energies into feeding, clothing and arming her fighting sons. Imports increased and exports decreased, all industrial and commercial interests being subordinated to the needs of national defense.

Manufactured products before the war were 67 per cent. of total exports, which were less than imports, this unfavorable trade balance being compensated chiefly by the revenue derived from foreign investments.

Exports to the United States and her colonies in 1919 were greater than in 1913, with an increase of 191 per cent. over 1918, as shown in the following table:

EXPORTS TO THE UNITED STATES AND COLONIES

1913	\$81,566,239
1918	56,038,127
1919	165,401,691

France is in a particularly favorable position to expand her trade in the Near East and with her colonies. While the

depreciation of the French franc in certain countries may be a handicap to the purchase of raw materials or even to the sale of products, it is well to remember that it will prove a great help to France in regaining the foreign markets lost during the war.

FRANCE'S FOREIGN COMMERCE

	<i>In millions of francs</i>	
	<i>Imports</i>	<i>Exports</i>
1912	8,231	6,713
1913	8,421	6,880
1914	6,402	4,809
1915	11,036	3,937
1916	15,159	5,102
1917	16,312	4,083
1918	22,662	4,723
1919	29,778	8,713

General Reconstruction

The wonderful efficiency of the French nation as a fighting organization was in itself a guarantee that the national peace

time equipment for production was highly developed. Nor was this magnificent equipment for the production of the materials required in war used up in a single supreme effort. France was not exhausted at the close of the war, as was abundantly shown by the repeated attacks of the final general offensive which gained in power to the very end.

As the war progressed there was expansion of the capital equipment in various lines of industry. New plants were constructed and old plants were enlarged. Munition factories necessarily experienced the largest expansion.

The rapidity with which the French put into operation the new plants is indicated by the results of an investigation made by the Department of Labor in July, 1917. Mines, quarries, railways, tramways, and establishments which were under the supervision of the Ministries of War and Marine were not included in the

investigation. In the 52,378 plants investigated, engaged in what may be called civilian production, it was found that the number of employees at work in July, 1917, was larger than the number employed before the war, the figures being respectively 1,559,393 and 1,524,959. The construction of new plants and the enlargement of old ones was widely distributed among the several branches of industry. The chemical industries necessarily were stimulated very largely. Before the signing of the armistice the production of sulphuric acid had almost doubled the pre-war volume and the output of nitric acid had increased to 30 or 40 times the former production.

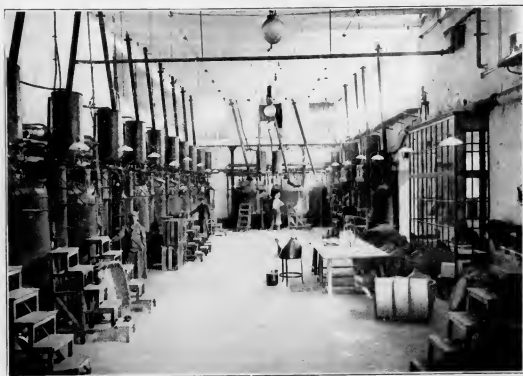
The iron deposits of Normandy gave rise to a new and important smelting industry in that region.

In the field of mechanical construction the war occasioned the renewal in large part of the tool equipment of the French factories. The scarcity of workers in



Courtesy French High Commission

One of the many munition factories converted to manufacture tools and machines for reconstruction



French Photofac Service, S. A.

Distilling room in a large perfumery

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A school of cabinetmaking at Lyons, where ex-soldiers are trained for civilian trades

many cases was largely offset by the introduction of labor-saving machines. In fact, the general utilization of machinery did not merely replace former workers; it carried production to levels never before attained.

Immediately after the signing of the armistice the Minister of the Liberated Regions requested to have placed at his disposal as much as possible of the narrow gauge railway (24 inches) left in the wake of the army and which had been used for the transportation of military supplies. But this service required complete reorganization on a peace footing; its personnel of 12,000 soldiers was to be demobilized and replaced by civilians. Besides this, repairs, changes in routes and increase in rolling stocks were required. The results in March and August, 1919, compare as follows:

	1919		1919	Establishments having resumed	Percentage of personnel compared with 1914
	March 31	August 31			
Miles in operation . . .	60	945	August 1	835	12.7
Cars in service	787	3,346	September 1	1,027	16.6
Locomotives in service .	50	230	October 1	1,278	20.8
Tonnage	25,354	2,369,392	November 1	1,355	23.1

[14]

Provisions for 1920 are: 600 locomotives; 8,000 cars; 3,500 kilometers of trackage in operation; tonnage capacity, 6,500,000.

The French people have made surprising progress in the period since the armistice in readjusting industry to a peace basis. As early as February, 1919, the Minister of Industrial Reconstruction reported that out of a total of 1,700,000 employees occupied on November 11, 1918, in a group of Government and private plants, 1,300,000 were then engaged in peace-time pursuits.

An investigation conducted in 1,986 industrial plants located in the occupied area and employing more than 20 workmen each, shows the following resumption:

The Government had made on November 15, 1919, advances in excess of 3 billion francs to the industrial interests of this region for the reconstruction of their factories, and the budget for 1920 provides for the expenditure of nearly 5 billion francs during the first quarter for the same purpose.

To hasten the actual work of reconstruction and to facilitate the securing of the necessary credits by the beneficiaries, a private financial corporation, the National Credit, has recently been created and authorized to provide funds for reconstruction purposes. This institution is also authorized to make long-term loans to encourage French industry and commerce in general.

In order to be in a position to finance these operations, the National Credit has issued a loan of 4 billion francs. The particular attraction of premium and lot features which are such an inducement to the French investor, together with the confidence inspired by the country's future, were such that this loan was oversubscribed four times.

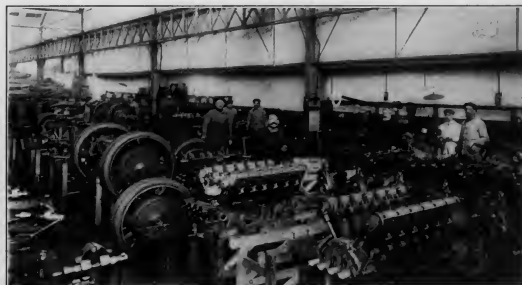
Colonial Possessions

A most significant factor for the industrial future of France is her vast colonial

domain. The area of the French colonies and dependencies is 23 times that of continental France, and the estimated population in 1913 was greater than that of France by about 25 per cent.

Nearest to France are Algeria, Tunis and Morocco. These countries were at one time called the granary of Rome and it is believed that in a short time they will become the granary of France. They are already important producers not only of wheat but of fruit, wine and cattle. Cotton can be profitably grown in some sections. The mineral wealth of these regions is considerable; large deposits of iron ore, zinc, lead and phosphates are being developed. Reports have been made of an extensive coal field in Algeria; and petroleum has been discovered in both Algeria and Morocco. In Algeria considerable development of the oil resources has already been accomplished.

Among other important French colonies are prosperous countries in West and Central Africa, also Indo-China, Madagascar and the French Islands of the Antilles and the Pacific.



Ministère de la Guerre

An automobile factory in Paris

[15]



Courtesy French High Commission

A school of cabinetmaking at Lyons, where ex-soldiers are trained for civilian trades

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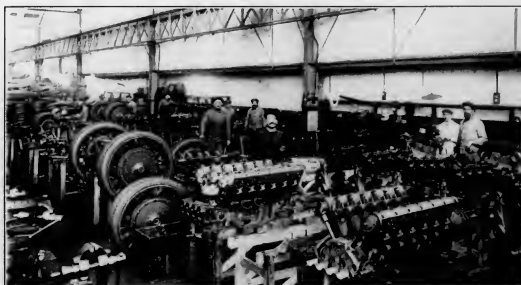
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Milieu de la Guerre

An automobile factory in Paris

[15]



Courtesy French High Commission

Timber being prepared for reconstruction work

An indication of the preparations already made for the industrial development of the French colonies is found in the railways in operation before the war. Distribution of the colonial railway mileage in 1913 is shown in the following table:

	<i>Miles</i>
Algeria	2,750
Tunis	1,420
Morocco	345
West Africa	1,520
Indo-China	1,280
Other Colonies	425
Total	7,740

The railway building program for Africa is suggestive of the conception which the French leaders have formed of the value of the colonies in the future development of France.

It is reported that a French committee for the development of the African railroads approved late in 1918 a program for the construction of 18,000 miles of track during the next fifteen years. It is proposed to extend a certain number of existing lines in Algiers and Tunis toward the highland and build rail

connections in Morocco. Another proposal is to connect northern Africa with the southwest coast on the one hand and with equatorial Africa on the other. This is to be accomplished by a road across the Sahara, reaching the Niger at Bourem and the Chad Lake by way of Nguigni-Massena. The cost of this railway program is estimated at \$800,000,000.

Harbors also are undergoing extensive improvements; for Algiers a sum of \$20,000,000 has been provided. The construction of the port of Casablanca, capable of handling 1,500,000 tons of shipping, is being rapidly carried out. Other ports also are undergoing similar improvements.

France's colonies have enormous forest resources estimated at 232,000,000 acres, nearly ten times those of France. Intensive exploitation during the war and damages by war have greatly depleted France's wealth in timber. Reconstruction will demand about 200,000,000 cubic meters of wood. A thorough survey is being made of colonial forests and concessions will be granted to concerns

which will agree to supply wood for the work of reconstruction.

Notwithstanding the fact that the enormous resources of the French colonies are only slightly developed, the foreign trade of the colonies in 1913 totaled \$608,800,000, approximately one-fourth as much as that of France proper. It is important to note that 55 per cent. of the imports were supplied by France, which received in return 49 per cent. of the exports. Imports include mostly manufactured products, while exports comprise foodstuffs, oil, lumber, cotton, rubber and ores.

The indications are that the development of these colonies will progress much more rapidly in the near future than in the years immediately before the war. France will need during 1920 about 650 million dollars' worth of foodstuffs and raw materials—namely, foodstuffs, \$150,000,000;

cotton, \$200,000,000; copper, \$70,000,000; oil, \$75,000,000; chemicals, tobacco, metallurgical products, fuel oil and coal, \$150,000,000. A great proportion of these needs will be filled by French colonies, while the manufacturing capacity of France will require new outlets, so that these colonial possessions will undoubtedly play a most important part in the development of French industry.

Finances

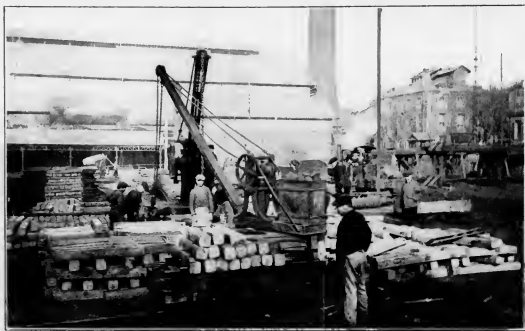
France is a country of thrift. When a country writes into its corporation law the obligation of all companies to set aside 5 per cent. of their yearly earnings to constitute a legal reserve fund before any dividends may be disbursed, it may well be considered as an example by many other nations.

The budget for 1913 amounted to \$1,020,000,000, of which 84 per cent.



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Timber from the forests of Lorraine ready for shipment to the devastated parts of France. About 200,000,000 cubic meters of wood will be used in reconstruction work



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In 1915, the French Government was opposed to any great fiscal effort. The collection of taxes was difficult, owing to the mobilization of tax collectors and of taxpayers and the war was not expected to last a very long time.

Toward the middle of 1916 it was decided to adopt certain fiscal measures to increase the revenue. These measures, and the excess over estimates, particularly in 1910, of indirect taxes and the yield of monopolies, made possible the payment to the Treasury of about 10 billion francs.

From August 1, 1914, until the end of 1919, the taxes recovered totaled, at par of exchange, about 6 billion dollars, against which there was an expenditure of about 38 billion dollars. Loans of various kinds and advances, in great part from the Bank of France, balanced the deficit.

"It is necessary," said the Minister of Finance, in a recent announcement, "that the taxpayer should know at once that the increased taxation which he is to bear will not fall short of 7 billions" (francs).

The Frenchman knows that extra taxation is necessary to meet this temporary situation and the payment during the war of about 4,000,000,000 francs on commercial paper, lodged with the Bank of France, for the maturity of which a

moratorium had been decreed, is ample proof of his readiness to meet his obligations. He has willingly curtailed his expenses in order to "carry on" until such time as Germany shall meet the obligations imposed upon her by the Treaty of Peace.

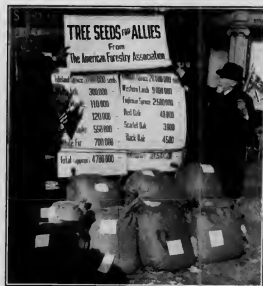
Deposits in savings banks on December 31, 1919, for example, totaled 6,066,000,000 francs. And it should be remembered that the maximum deposit

for one account permitted under the law was 3,000 francs up to October 19 last, when the amount was increased to 5,000 francs. Gold holdings by the Bank of France on February 18, 1920, were 5,581,270,275 francs, against a note circulation of 37,958,511,021 francs.

During the first eleven months of 1919, the sum yielded by indirect taxation, Government

monopolies, public works and from other sources greatly surpassed the estimate made by the Ministry of Finance.

Payments from all these sources to the Treasury during November, 1919, demonstrate a rapid return to normal of the various phases of business life—the increase over November, 1918, being 81 per cent. Internal revenue on articles of consumption increased 72 per cent. during the same period, customs receipts were 69 per cent. greater, and the sum produced by the Government's monopolies showed the following increases: Explosives, 121 per cent.; tobacco, 105 per cent.; matches, 101 per cent.



Copyright by Underwood & Underwood
The American Forestry Association has shipped 35,000,000 tree seeds for the replanting of French and Belgian forests

The debt of France amounts, at par of exchange, to about 40 billion dollars, about 6 times her pre-war debt. Only 6 billion dollars constitutes the foreign debt.

The great confidence in their Government displayed by the French people is evidenced by the wide distribution of national bonds, almost one inhabitant out of every five being a bondholder.

Foreign Investments

The foreign investments of France before the war, as estimated by former Finance Minister Klotz, were approximately \$9,000,000,000. These investments were widely distributed, most of them being in countries which are relatively new in an industrial sense. About one-fourth of the total was in Russia. Approximately \$1,000,000,000 was invested in Latin America, particularly in Argentina and Brazil. In Egypt was some \$500,000,000 of French investments and a like amount was in various French colonies.

At pre-war valuations, these investments, then, taking no account of the advances by France to Allies during the war, greatly exceed the external debt of the French Government.

With the further industrial development of these countries, the French investments should prove increasingly profitable to France. The existing investments will tend to stimulate further investment of French capital in these same countries which are undergoing development. Generally speaking, these investments have a double advantage for French industry. In the first place, they give rise directly to an additional demand for the exportation of French commodities—that is, various materials needed in construction work and equip-

ment supplies. In general, the export of capital is largely in the form of actual goods sent out by the investors or their fellow nationals. Another influence is the favorable effect upon franc exchange.

The interest and dividend payments on these investments correspond to the exportation of goods in their effect upon the balance of the country's international payments. Consequently French foreign investments are particularly significant at the present time of unusual need for building up the credit side of the country's trade balance.

Future of France

France has paid dearly for the privilege of battling for the freedom of the world. She has lost 6.4 per cent. of her population, and "has recklessly sacrificed a vast part of the wealth she had accumulated as the fruit of centuries of toil and stinting."

It has taken many months to make the necessary inventory of the devastated regions and to clear up the wreckage, but reconstruction is today in full swing.

A new breath of life has swept over France. The new generation has lived out of doors for four years and it wants more activity, more air. At night, in the silence of the trenches, many strong resolutions were made which will provide a tremendous impetus to business energy in the new France of today. Four hundred young demobilized professors, it is reported, have declined the offer to resume their teaching and have taken situations in manufacturing or commercial businesses.

The example of the great industrial nations of the world was deeply meditated in many minds during the four years of war, and there is dawning what her admirers already call by the name of Greater France.

came from that part of France which did not suffer from the invasion. An increase in burden of 120 per cent. was carried in 1919 by this same section of the country.

In 1915, the French Government was opposed to any great fiscal effort. The collection of taxes was difficult, owing to the mobilization of tax collectors and of taxpayers and the war was not expected to last a very long time.

Toward the middle of 1916 it was decided to adopt certain fiscal measures to increase the revenue. These measures, and the excess over estimates, particularly in 1919, of indirect taxes and the yield of monopolies, made possible the payment to the Treasury of about 10 billion francs.

From August 1, 1914, until the end of 1919, the taxes recovered totaled, at par of exchange, about 6 billion dollars, against which there was an expenditure of about 38 billion dollars. Loans of various kinds and advances, in great part from the Bank of France, balanced the deficit.

"It is necessary," said the Minister of Finance, in a recent announcement, "that the taxpayer should know at once that the increased taxation which he is to bear will not fall short of 7 billions" (francs).

The Frenchman knows that extra taxation is necessary to meet this temporary situation and the payment during the war of about 4,000,000,000 francs on commercial paper, lodged with the Bank of France, for the maturity of which a

moratorium had been decreed, is ample proof of his readiness to meet his obligations. He has willingly curtailed his expenses in order to "carry on" until such time as Germany shall meet the obligations imposed upon her by the Treaty of Peace.

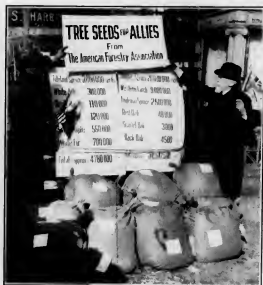
Deposits in savings banks on December 31, 1919, for example, totaled 6,066,000,000 francs. And it should be remembered that the maximum deposit

for one account permitted under the law was 3,000 francs up to October 19 last, when the amount was increased to 5,000 francs. Gold holdings by the Bank of France on February 18, 1920, were 5,581,270,275 francs, against a note circulation of 37,958,511,021 francs.

During the first eleven months of 1919, the sum yielded by indirect taxation, Government

monopolies, public works and from other sources greatly surpassed the estimate made by the Ministry of Finance.

Payments from all these sources to the Treasury during November, 1919, demonstrate a rapid return to normal of the various phases of business life—the increase over November, 1918, being 81 per cent. Internal revenue on articles of consumption increased 72 per cent. during the same period, customs receipts were 69 per cent. greater, and the sum produced by the Government's monopolies showed the following increases: Explosives, 121 per cent.; tobacco, 105 per cent.; matches, 101 per cent.



Copyright by Underwood & Underwood
The American Forestry Association has shipped 35,000,000 tree seeds for the replanting of French and Belgian forests

The debt of France amounts, at par of exchange, to about 40 billion dollars, about 6 times her pre-war debt. Only 6 billion dollars constitutes the foreign debt.

The great confidence in their Government displayed by the French people is evidenced by the wide distribution of national bonds, almost one inhabitant out of every five being a bondholder.

Foreign Investments

The foreign investments of France before the war, as estimated by former Finance Minister Klotz, were approximately 89,000,000,000. These investments were widely distributed, most of them being in countries which are relatively new in an industrial sense. About one-fourth of the total was in Russia. Approximately \$1,000,000,000 was invested in Latin America, particularly in Argentina and Brazil. In Egypt was some \$500,000,000 of French investments and a like amount was in various French colonies.

At pre-war valuations, these investments, then, taking no account of the advances by France to Allies during the war, greatly exceed the external debt of the French Government.

With the further industrial development of these countries, the French investments should prove increasingly profitable to France. The existing investments will tend to stimulate further investment of French capital in these same countries which are undergoing development. Generally speaking, these investments have a double advantage for French industry. In the first place, they give rise directly to an additional demand for the exportation of French commodities—that is, various materials needed in construction work and equip-

ment supplies. In general, the export of capital is largely in the form of actual goods sent out by the investors or their fellow nationals. Another influence is the favorable effect upon franc exchange.

The interest and dividend payments on these investments correspond to the exportation of goods in their effect upon the balance of the country's international payments. Consequently French foreign investments are particularly significant at the present time of unusual need for building up the credit side of the country's trade balance.

Future of France

France has paid dearly for the privilege of battling for the freedom of the world. She has lost 6.4 per cent. of her population, and "has recklessly sacrificed a vast part of the wealth she had accumulated as the fruit of centuries of toil and stinting."

It has taken many months to make the necessary inventory of the devastated regions and to clear up the wreckage, but reconstruction is today in full swing.

A new breath of life has swept over France. The new generation has lived out of doors for four years and it wants more activity, more air. At night, in the silence of the trenches, many strong resolutions were made which will provide a tremendous impetus to business energy in the new France of today. Four hundred young demobilized professors, it is reported, have declined the offer to resume their teaching and have taken situations in manufacturing or commercial businesses.

The example of the great industrial nations of the world was deeply meditated in many minds during the four years of war, and there is dawning what her admirers already call by the name of Greater France.

Three Cities in Southern France

Bordeaux—Lyons—Marseilles

THE south of France has been a great factor in the wealth of the entire country, and particularly in its successful industrial support of the war and rapid recovery since the armistice. Before the war, the richest industrial sections of France were located in the northeast and east, near the rich coal deposits, but it is safe to say that pre-war conditions will no longer prevail, owing to the great development during the last five years of the non-invaded regions of France.

The necessities of war have spurred France to an unprecedented industrial activity. The decision to develop the great water-power resources of France, in an effort to save coal, has called the attention of the nation to the mountainous districts of the Alps, Cevennes, and Pyrenees of southern France where the majority of these resources are located. The development of this plan will mean the electrification of the great trunk line railways and the creation and enlargement of many industries, which will result in the enrichment of these regions.

The growth of the three large cities of Lyons, Marseilles, and Bordeaux during the war period is indicative of the rapid industrial expansion in southern France.

The movement in their population is shown in the following figures:

	1911	1918 Estimated	Percentage of Change
France . . .	39,601,509	37,000,000	-7%
Bordeaux . .	261,678	305,000	+17%
Lyons . . .	523,796	600,000	+15%
Marseilles . .	550,619	750,000	+36%

The invasion by the Germans of the highly industrial northern section forced

many industries to move south. France, deprived of her most productive industrial districts, proceeded to create new ones. Thus, the cloth-makers of Sedan moved away and established themselves at Bayonne and on the Spanish frontier, while the wool-combers of Roubaix took up their handicraft again at Vienne on the Rhone, south of Lyons. The transformation of communities in the south of France by this industrial immigration is described as having been in many cases truly remarkable.

When Paris itself was threatened by the long-range guns, a considerable number of Parisian factories moved elsewhere, either to strengthen centers already powerful, particularly Lyons, or to create, sometimes in the open country, entirely new centers.

While much of the increase of population and expansion of industries in these regions may be regarded as temporary changes induced by the war, it is generally expected that the south of France will retain a large percentage of the new industrial capacity which the war brought to it. Businesses which have had to bear the expenses and losses of one removal will not, except for very urgent reasons, undertake another.

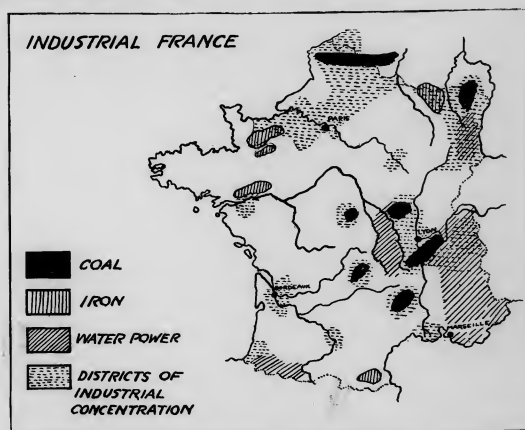
But there are more substantial reasons than the disinclination of business to abandon established channels for believing that the south of France will continue to be much more important industrially than it was before the war. The coal of northern France provided one of the basic reasons for the former concentration of industry in that section. But if the south of France is deficient in coal supply, it

[20]

possesses a very large percentage of the country's "white fuel"—water-power.

There is evidence that even before the war there was a tendency on the part of industry to shift toward the south to take advantage of these resources hitherto relatively undeveloped, and the war gave a decided impetus to the exploitation

southern development is proved by the increases in the population of these cities. Marseilles and Lyons are especially favorably located to retain their new industrial capacity, for they are situated in the valley of the Rhone where many of the largest water-power projects have been and will be carried out.



Courtesy "La France"

Map indicating the industrial importance of the cities of Lyons, Marseilles and Bordeaux

of this water-power. The new water-power developed during the three and a half years from the beginning of the war to the end of 1917 was 374,000 horsepower. The rapid rate of development may be judged by the fact that in 1913 the total water-power utilized in all France amounted to only 650,000 horsepower.

That Bordeaux, Lyons, and Marseilles have shared prominently in the recent

Municipal Finances

The high credit enjoyed by these three French cities is indicated by the prices at which their internal obligations are selling in France. Below are shown recent prices and yields for two important internal issues, one of Bordeaux and one of Marseilles:

	Rate	Date Issued	Par Value	Price about	Yield
Marseilles . . .	3½%	1890	500 f.	421 f.	4.54%
Bordeaux . . .	3½%	1891	500 f.	473 f.	4.11%

[21]

The following table shows the debt of each of the cities. The amount of internal debt payable in francs is converted into dollars at the normal rate of exchange, i.e., 5.18 francs to the dollar.

	Lyons	Marseilles	Bordeaux
Internal debt (in 1918) . . .	\$18,000,000	\$30,323,184	\$8,386,612
External debt (last issue) . . .	15,000,000	15,000,000	15,000,000
	\$33,000,000	\$45,323,184	\$23,386,612

Population (estimated for 1918)	600,000	790,000	306,000
Per capita debt . .	\$55.08	\$50.43	\$76.67

The finances of all French cities are supervised by the National Government. This is particularly true of the larger French cities such as Bordeaux, Lyons and Marseilles, for in the case of municipalities having annual receipts of more than \$80,150, the budget and all other important financial matters are passed upon

by the Minister of the Interior, representing the President of the Republic. The Minister of the Interior may eliminate or reduce items in a proposed municipal budget, but in no case may he increase the items.

Loans may be voted by the Municipal Council of a city, but in order to secure the necessary approval by the National Government, the municipality must satisfy the central authorities as to the nature of the proposed expenditures to be made from the proceeds of the loan, and also as to the plans for raising the requisite revenue for interest and sinking fund payments, and as to the ability of the municipality to raise the revenue. The Court of Accounts, a national institution, surveys and audits all accounts of cities and towns with annual revenues in excess of \$5,800. The national control and audit of municip-



Courtesy French High Commission

Scene in Lyons, ranked as the second city in France in population, manufacturing and commerce. Lyons leads the world in silk manufactures



Courtesy French High Commission

Farm exhibits at the annual Lyons sample fair. Transactions at the fair last year amounted to about \$200,000,000

Lyons

pal finances tends to insure a conservative fiscal policy on the part of the municipalities.

Of the numerous sources of revenue possessed by the French cities, the most important are the "octroi" and the "centimes additionnels." The "octroi," which originated in ancient times as dues collected at the city gates, are import duties levied upon a variety of merchandise and other products. In Lyons the "octroi" have been abolished and a group of taxes substituted "in lieu of 'octroi.'" The "centimes additionnels" are percentages added by the cities to the national tax on personal and real property, a fortunate circumstance in connection with this tax being that it is collected by the central government at the same time as the national tax and the proceeds are turned over to the municipal authorities.

Among the other sources of revenue commonly enjoyed by the French cities are revenues from municipal public utilities, particularly waterworks, income from municipal real estate rented to private individuals and receipts on account of concessions to gas works, electric light and power works, tramways, etc.

Lyons is situated at the confluence of the Rhone and Saone Rivers, about 300 miles southeast of Paris and 175 miles north of Marseilles. The city was settled by the Romans in 41 B. C.

In importance as a manufacturing and commercial center, Lyons is ranked next to Paris. In size it is the third city of France, having a population estimated at 600,000 in 1918.

For several centuries Lyons has been the center of the silk industry of France and now it leads the world in silk manufactures. The silk industry was originally derived from Italy and was patronized by the French kings; in 1450 the French King Charles gave Lyons a monopoly in the industry.

Over 90,000 looms and 300,000 hands are engaged in the manufacture of silk in Lyons. In addition allied industries, such as dyeing, printing and finishing, employ many thousands. The subsidiary industries include the production of articles required in the silk and dyeing trades, such as dyes, glue, gelatine and chemical products. Silk production has steadily increased in the last few years. In 1918

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Over 90,000 looms and 200,000 hands are engaged in the manufacture of silk in Lyons. In addition allied industries, such as dyeing, printing and finishing, employ many thousands. The subsidiary industries include the production of articles required in the silk and dyeing trades, such as dyes, glue, gelatine and chemical products. Silk production has steadily increased in the last few years. In 1918

it amounted to \$135,038,610.03, against \$90,289,575.28 in 1913.

Industries other than silk manufacturing and allied trades are well represented at Lyons, and have undergone a great development during the war, many industries from northern France having established themselves in this vicinity. Among these industries the iron and steel have an important place. In the immediate neighborhood of Lyons are located large structural and mechanical steel plants, steam engine and automobile factories, one of which covers 250 acres. The chemical and perfumery industries have been developed on a large scale since the war. Other industries include tanneries, flour mills, breweries, glass-works, and the famous sausages for which Lyons is renowned.

The importance of Lyons as a trade center is evidenced by the sample fairs held each year in the spring and autumn, at which numerous lines of manufactured goods are represented. It is reported that transactions last year at the fair amounted to about \$200,000,000.

Lyons is divided into three parts by the Rhone and Saone, along the banks of which several miles of quays have been built to handle the river traffic. Proposed development of the two rivers and construction of a canal connecting them with the Rhine will, if carried out, do much to increase the water traffic of Lyons. From the standpoint of railway transportation, Lyons has ample facilities. The great trunk line of the Paris, Lyons and Mediterranean Railroad runs through Lyons, which is the crossing point of the roads leading from Paris, central and southern France to Switzerland and southeastern Europe.

Vast plans are under way for the development of the water-power of the Rhone River. The power of the Rhone

available on French soil is estimated at 750,000 horse-power, equal to a saving of five million tons of coal per annum. Canalization of the Rhone when completed will permit 1,200-ton barges to reach Lyons from the sea.

Coal and copper are mined in the Lyons district, as well as pyrites for the extraction of sulphuric acid, and building stone, which tradition tells us was used in the construction of the Lyons Cathedral. The great volume of business transacted in Lyons has led to the development of strong financial institutions, of which the Credit Lyonnais, transacting a world-wide business through more than one thousand branches, is the best known.

Municipal receipts in 1918 amounted to \$5,620,000 at par of exchange, including \$2,640,000 for local customs dues.

Marseilles

Since the time of the Phoenician traders more than two thousand years ago, Marseilles has been a gateway of commerce. That it has been such is not surprising, for it is one of the greatest natural seaports in the world. It is now the principal port of France and the leading maritime city of the Mediterranean, with an estimated population in 1918 of 750,000.

The traffic in merchandise passing through Marseilles has increased from 4,372,000 tons in 1870 to more than 21,590,000 tons at the present time. The main reason for this remarkable growth in commerce is to be found in the opening of the Suez Canal, which placed the city in a favored position with reference to the trade with India and the Orient.

In addition to being the dominating factor in the trade with the Levant, Marseilles also controls a large part of the commerce of France with the French colonies in Africa. This trade may be expected to increase with the development of these African regions.



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The harbor of Marseilles, the principal port of France, and one of the world's greatest natural seaports

As would be expected, Marseilles is the center of extensive transportation facilities. From it ply numerous lines of steamers, the routes of which cover the Mediterranean, the Orient, and the North and South Atlantic.

Marseilles is the terminal of the largest and richest railway system in France. The Paris, Lyons and Mediterranean Railroad, which links Marseilles to Paris and Lyons, is also the highway to Nice and Italy. Marseilles is the natural point of contact between southeastern and southwestern France.

Port facilities in Marseilles have been expanded to keep pace with trade. At present the city has ten wet docks, six dry docks and twenty-five miles of quays with well equipped warehouses, which afford accommodation for 2,000 vessels at once. Marseilles is not satisfied with what has already been accomplished in this respect, however, but has undertaken further extensive harbor improvements and additions, the total cost of which is estimated at \$33,000,000.

In 1913 the shipping movement was:

Incoming and outgoing ships	17,278
Tonnage deadweight	21,090,000
Tons of merchandise	8,938,652
Travelers	566,165

During the war the traffic of the port underwent important changes. In 1915 the number of ships was reduced to 12,618, tonnage to 16,407,826, and merchandise to 7,681,893 tons. This decrease was particularly noticeable in exports. The figures for 1915 do not include the war traffic of the French and British military bases.

Marseilles is also the actuating force behind the movement for the canalization of the Rhone, which when completed will afford a waterway across Europe by means of the Rhone, Saone and Rhine. It now connects with the Rhone by the St. Louis canal and when the present plans are completed 1,200-ton barges may go as far as Lyons, 200 miles inland.

This work will cost \$482,000,000 and will be carried out by a company with a capital of \$48,000,000 subscribed by the

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cities of Paris and Lyons, the departments of the Rhone Valley, the Chambers of Commerce and the leading industrial interests.

This project provides for the establishment of 20 hydro-electric plants with a capacity of 715,000 horse-power, giving 4 billion kilowatt-hours, or an equivalent saving of 5 million tons of coal.

In the immediate vicinity of Marseilles more than 500,000 acres of tillable land will be made available by the canalization of the Rhone.

In addition to being a shipping center, Marseilles has many large industries. The chief of these industries are oil crushing, soap and candle making, and flour milling. In 1914, forty seed-oil mills were operated and in that year 605,000 long tons of oil seeds were imported to be ground. In the same year 26,000 long tons of olive oil were imported, much of which was exported after treatment. The soap making establishments number about 50, and have an annual capacity of 175,000 tons. The engineering and metal trades employ more than one-tenth the total industrial

population. Construction iron, locomotives, boilers, motor cars, hydraulic and other machinery, and ship fittings are manufactured.

Other industries include sugar refineries, rice mills, textile and shoe factories, macaroni mills, and chemical factories.

Nearly, lending its activity to the life of Marseilles, are located great shipbuilding yards and manufactories of Government monopolies, such as matches, tobacco, and gunpowder.

The population of Marseilles rose from 195,000 in 1851 to 750,000 in 1918, making it the second French city in size. This remarkable increase at a time when the total population of France remained more or less stationary emphasizes the favorable location of Marseilles as regards commerce and industry.

In 1918 the fiscal receipts were \$9,072,411. Direct taxation yielded \$2,150,000 and municipal customs dues \$2,830,000. Expenses included \$1,220,000 for public instruction. In 1915 the total value of municipal real estate was estimated at \$19,500,000.



Photo Ed-in Levick, New York

Bird's-eye view of the inner harbor at Bordeaux



Courtesy French High Commission

The Bordeaux waterfront

Bordeaux

Bordeaux, situated on the banks of the River Garonne, about sixty miles from the Atlantic, has one of the finest three harbors in France, and with its estimated population of 305,000 in 1918 ranks fourth among the cities of France.

Like Marseilles, Bordeaux is important as a shipping center. It is the terminus of many steamship lines, the most important of which is the French South American service. Through it passes most of the Brazilian and Argentine trade with France, and also a considerable part of the trade with the African colonies of France. It maintains commercial relations with all countries, but chiefly, aside from those already mentioned, with Great Britain, Spain, Portugal and the United States. The pre-war record exhibits an annual entrance and clearance from the harbor of vessels aggregating 5,228,000 tons.

Bordeaux wine enjoys a universal reputation. It is produced in the country immediately surrounding the city and its 79,000,000 gallons a year form the principal basis of the commerce of Bordeaux. Among the list of important ex-

ports are pine timber and its by-products, turpentine, rosin, etc., textiles, chemicals, sugar, rice, hardware and machinery.

The chief imports are metals, coal, grain, rubber, coffee and cacao, hides, and cabinet woods.

Of the local industries, shipbuilding is the most important. There is a considerable number of industries which transform imported raw products into finished goods; prominent among these are the tanneries and leather-working industries which manufacture the hides received from South America, cabinetmaking which transforms the fine woods brought from Africa, fertilizer factories which make available for agricultural use the imported natural phosphates, and a refinery for crude petroleum from America.

Large-scale production is maintained in the manufacture of woolen goods, rope, carpets, railway equipment, automobiles, refined sugar, tobacco, glass bottles, earthenware, and paper.

The harbor of Bordeaux is capable of accommodating 1,000 to 1,200 vessels at once. Prior to 1917 over 100,000,000

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population. Construction iron, locomotives, boilers, motor cars, hydraulic and other machinery, and ship fittings are manufactured.

Other industries include sugar refineries, rice mills, textile and shoe factories, macaroni mills, and chemical factories.

Nearly, lending its activity to the life of Marseilles, are located great shipbuilding yards and manufactories of Government monopolies, such as matches, tobacco, and gunpowder.

The population of Marseilles rose from 195,000 in 1851 to 750,000 in 1918, making it the second French city in size. This remarkable increase at a time when the total population of France remained more or less stationary emphasizes the favorable location of Marseilles as regards commerce and industry.

In 1918 the fiscal receipts were \$9,072,411. Direct taxation yielded \$2,150,000 and municipal customs dues \$2,830,000. Expenses included \$1,320,000 for public instruction. In 1915 the total value of municipal real estate was estimated at \$19,500,000.



Photo Edwin Levick, New York

Bird's-eye view of the inner harbor at Bordeaux



Courtesy French High Commission

The Bordeaux waterfront

Bordeaux

Bordeaux, situated on the banks of the River Garonne, about sixty miles from the Atlantic, has one of the finest three harbors in France, and with its estimated population of 305,000 in 1918 ranks fourth among the cities of France.

Like Marseilles, Bordeaux is important as a shipping center. It is the terminus of many steamship lines, the most important of which is the French South American service. Through it passes most of the Brazilian and Argentine trade with France, and also a considerable part of the trade with the African colonies of France. It maintains commercial relations with all countries, but chiefly, aside from those already mentioned, with Great Britain, Spain, Portugal and the United States. The pre-war record exhibits an annual entrance and clearance from the harbor of vessels aggregating 5,228,000 tons.

Bordeaux wine enjoys a universal reputation. It is produced in the country immediately surrounding the city and its 79,000,000 gallons a year form the principal basis of the commerce of Bordeaux. Among the list of important ex-

ports are pine timber and its by-products, turpentine, rosin, etc., textiles, chemicals, sugar, rice, hardware and machinery.

The chief imports are metals, coal, grain, rubber, coffee and cacao, hides, and cabinet woods.

Of the local industries, shipbuilding is the most important. There is a considerable number of industries which transform imported raw products into finished goods; prominent among these are the tanneries and leather-working industries which manufacture the hides received from South America, cabinetmaking which transforms the fine woods brought from Africa, fertilizer factories which make available for agricultural use the imported natural phosphates, and a refinery for crude petroleum from America.

Large-scale production is maintained in the manufacture of woolen goods, rope, carpets, railway equipment, automobiles, refined sugar, tobacco, glass bottles, earthenware, and paper.

The harbor of Bordeaux is capable of accommodating 1,000 to 1,200 vessels at once. Prior to 1917 over 100,000,000

francs had been spent in improving the entrance to the harbor and in constructing a break-water and canals and other additions to port facilities. Important as had been the port improvements prior to 1917, new facilities were added during

that and the succeeding year at a rate never before attained. The agency which effected these overnight changes was the American Army; in six months it had completed port facilities which engineers had predicted would take two years to build. The result for Bordeaux is that it emerges from the war with greatly increased equipment for carrying on industrial and com-



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*Lighters and barges in the harbor of
Bordeaux*

Bordeaux is an important rail-head. To it converge the two important trunk lines of the Paris-Orleans Railroad and of the Midi Railroad, over whose lines runs the Paris-Madrid express. Bordeaux, furthermore, is the natural sea outlet of central and southwestern France, whose rapid development since the war holds forth great promises for the future.

mercial activities. "Watch Bordeaux" is therefore a slogan in the minds of those who know the city's great expansion in wharfage and warehouse facilities.

In 1918, at par of exchange, municipal receipts totaled \$4,000,000, including \$1,317,000 from municipal customs dues.

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